Powering Business Worldwide	**Product Environmental Profile**	PEP ecopassport®

Eaton XV-303 Touch Panel

Representative product	EP-401364 Product Category: Other Equipment (Active product)
Description of the product	HMI-PLC in 7", 10" and 15" display size as life-cycle extension of the high volume XV-303 WinCE device series. Projectable with Galileo and XSoft-Codesys-3 Software. Product is optimized for easy device replacement by our customers. HMI / PLC devices with identical mechanical dimensions as predecessor system. Wide range of interfaces like predecessor system: Ethernet, CAN, RS232, RS485, USB-Host and SD-Card
Homogeneous Product Family	PEP covers following part numbers under homogenous family: EP-401361 EP-401362 EP-401363 EP-401365 EP-401366 EP-401367 EP-401368 EP-401369 EP-401370
Functional unit	To provide user input and visual feedback for machine control through a touchscreen panel with a display size of 7 inches, over an operational lifetime of 10 years in industrial HMI-PLC applications.
Company information	Eaton Automation GmbH, Spinnereistrasse 8-14, CH-9008 St. Gallen, Switzerland Email: productstewardship-es@eaton.com

Constituent Materials of

Reference Product:	1.12E+00 kg (With Packaging)		
Materials	**Category PEP Material**	**Mass (kg)**	**Percentage (%)**
Other	Electronic Component	2.76E-01	24.5%
Other	Cardboard	2.17E-01	19.3%
Plastics	Polycarbonate	1.74E-01	15.5%
Other	Wood	1.43E-01	12.7%
Metals	Steel	4.70E-02	4.2%
Other	Glass fiber	3.00E-02	2.7%
Metals	Brass	2.47E-02	2.2%
Other	Epoxy Resin	2.31E-02	2.1%
Metals	Copper	2.13E-02	1.9%
Plastics	Polyester	1.45E-02	1.3%
Other	Paper	1.34E-02	1.2%
Plastics	Polyethylene	1.27E-02	1.1%
Metals	Aluminum	2.59E-02	2.3%
Plastics	Polyamide 66	1.12E-02	1.0%
Metals	Lead	1.01E-02	0.9%
Other	Miscellaneous	8.22E-02	7.3%
	Total	1.12E+00	100%

Additional Environmental Information	
Manufacturing	The reference product is assembled at an Eaton plant holding management system certifications according to ISO 14001 standards.
Distribution	Eaton is committed to minimizing weight and volume of product and packaging with focus to optimize transport efficiency.
Installation	During installation of the product only standard tools are needed, which do not require any additional energy source and no waste other than the obsolete product packaging is generated during this step.
Use	The product does not have maintenance during operation.
End of life	The recyclability rate of the overall product is 6.31% if properly dismantled prior to further processing at a recycling facility. The rate is calculated based on the method described in IEC/TR 62635, Edition 1.0/2012-10 Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment.

Environmental Impacts	
The calculation of the environmental impacts is the result of the Product's Life Cycle Analysis in accordance with ISO 14040/44, covering the entire lifecycle, i.e., "Cradle-to-Grave" including the following life cycle phases: production, distribution, installation, use and end of life. System modelling was carried out using the commercial LCA software EIME v6.2.5-6 with database version CODDE-2024-04-updated on 2024-06-04. Indicators Set used: PEF EF 3.1 (Compliance: PEP ed.4, EN15804+A2) v1.0	
Manufacturing Phase	The product is assembled and prepared for shipment by direct source supplier, located in Czech Republic. Energy model used: Europe
Distribution Phase	Distribution of the product in its packaging from the Eaton's last logistics platform to the installation place in Europe is considered as per PCR rules.
Installation Phase	Product is installed in Europe. Only treatment of packaging waste is considered in this phase. Energy model used for treatment of packaging: Europe

Use Phase	Reference lifetime: 10 years (as per real scenario) Energy model used: Europe. Usage profile: The product operates in active mode at 14.4 W for 48% of the time and in off mode at 0 W for 52% of the time. The total energy consumption is 605.491 kWh over the 10 years.
End of life Phase	Product disposed according to European WEEE guidelines. Energy model used: Europe
Module-D	Module D is calculated according to PCR-ed4-EN-2021 09 06 based on the materials recycled and the modelled end-of-life scenario. It expresses the net benefits and loads beyond the boundaries of the system and are not to be included in the life cycle totals.

Environmental Impact for Functional Unit

Environmental Impact Indicators: Mandatory

Mandatory environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B6 Only - use*	C1-C4 - End of life	D- Benefits and loads
Climate change - total	kg CO_2 eq.	2.99E+02	8.41E+01	2.58E-01	6.15E-01	2.13E+02	5.29E-01	-1.58E-01
Climate change - fossil fuels	kg CO_2 eq.	2.99E+02	8.45E+01	2.58E-01	3.58E-01	2.13E+02	5.07E-01	-4.77E-01
Climate change - biogenics	kg CO_2 eq.	2.79E-01	-3.93E-01	1.06E-06	2.57E-01	3.93E-01	2.29E-02	3.19E-01
Climate change - land use and land use transformation	kg CO_2 eq.	3.58E-04	3.58E-04	3.91E-07	1.39E-08	0.00E+00	4.07E-08	0.00E+00
Ozone depletion	kg eq. CFC-11	1.14E-05	1.03E-05	3.13E-09	4.13E-09	1.03E-06	3.36E-08	-4.59E-08
Acidification (AP)	mole of H+ eq.	1.66E+00	5.52E-01	4.08E-04	8.65E-04	1.09E+00	9.69E-03	-2.98E-03
Freshwater eutrophication	kg P eq.	8.54E-04	2.62E-04	9.66E-07	5.98E-06	5.62E-04	2.29E-05	-4.27E-06
Marine aquatic eutrophication	kg of N eq.	1.99E-01	5.88E-02	7.40E-05	3.41E-04	1.33E-01	6.50E-03	-5.22E-04
Terrestrial eutrophication	mole of N eq.	2.77E+00	6.17E-01	8.12E-04	2.58E-03	2.14E+00	5.32E-03	-4.80E-03
Photochemical ozone formation	kg of NMVOC eq.	6.27E-01	2.05E-01	2.63E-04	6.18E-04	4.19E-01	1.83E-03	-1.40E-03
Depletion of abiotic resources - elements	kg eq. Sb	1.08E-02	1.07E-02	9.22E-08	1.40E-08	7.55E-05	5.28E-07	-4.83E-05
Depletion of abiotic resources - fossil fuels	MJ	6.46E+03	1.05E+03	4.59E+00	3.00E+00	5.39E+03	1.33E+01	-7.77E+00

Water scarcity	m^3 of eq.. deprivation worldwide	1.61E+02	2.71E+01	9.30E-03	1.89E-02	1.63E+01	1.17E+02	-1.46E-01

***Note**: B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1- B5, B7) are equal to zero. So, it is not listed in the result tables.

Inventory Flow Indicators: Mandatory

Mandatory environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B6 Only - use*	C1-C4 - End of life	D- Benefits and loads
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	1.47E+03	4.10E+01	1.45E-02	9.89E-01	1.43E+03	6.09E-01	6.59E-01
Use of renewable primary energy resources used as raw materials	MJ	6.84E+00	6.84E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.13E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.48E+03	4.78E+01	1.45E-02	9.89E-01	1.43E+03	6.09E-01	-3.47E+00
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	6.45E+03	1.04E+03	4.59E+00	3.00E+00	5.39E+03	1.33E+01	-7.69E+00
Use of non-renewable primary energy resources used as raw materials	MJ	1.14E+01	1.14E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-8.53E-02
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	6.46E+03	1.05E+03	4.59E+00	3.00E+00	5.39E+03	1.33E+01	-7.77E+00
Use of secondary materials	kg	3.09E-04	3.09E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m^3	4.19E+00	6.28E-01	2.17E-04	4.55E-04	3.84E-01	3.17E+00	-3.39E-03
Hazardous waste disposed of	kg	1.96E+02	1.87E+02	1.08E-03	3.07E-02	9.35E+00	3.19E-01	-3.81E+00
Non-hazardous waste disposed of	kg	5.55E+01	1.92E+01	2.40E-02	1.48E-01	3.60E+01	7.38E-02	-4.21E-01
Radioactive waste disposed of	kg	1.70E-02	8.69E-03	1.90E-05	1.69E-05	8.27E-03	8.54E-06	-2.49E-04
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	1.29E-01	3.64E-02	0.00E+00	4.63E-02	0.00E+00	4.66E-02	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ by energy vector	6.90E-02	8.66E-03	0.00E+00	5.70E-02	0.00E+00	3.33E-03	0.00E+00
Biogenic carbon content of the product	kg of C.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	kg of C.	-1.55E-01	1.55E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

*__Note__: B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1- B5, B7) are equal to zero. So, it is not listed in the result tables.

Environmental Impact Indicators: Optional

Optional Environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B6 Only - use*	C1-C4 - End of life	D- Benefits and loads
Emission of fine particles	incidence of diseases	1.18E-05	2.94E-06	3.50E-09	5.30E-09	8.80E-06	2.50E-08	-9.35E-08
Ionizing radiation, human health	kBq of U235 eq.	3.58E+02	5.09E+01	9.14E-03	4.87E-02	3.07E+02	4.68E-02	-5.52E-01
Ecotoxicity, fresh water	CTUe	9.30E+02	5.09E+02	7.54E+00	4.01E+00	4.03E+02	6.21E+00	-6.05E+00
Human toxicity, cancer effects	CTUh	3.26E-07	2.69E-07	5.06E-11	2.68E-08	2.68E-08	3.24E-09	-5.79E-07
Human toxicity, non-cancer effects	CTUh	2.21E-06	1.50E-06	9.65E-10	8.86E-10	6.41E-07	7.02E-08	-1.52E-08
Impacts related to land use/soil quality	-	8.48E+00	1.30E+00	1.11E-03	1.18E-03	5.91E+00	1.27E+00	-8.83E-04
Total use of primary energy during the life cycle	MJ	7.93E+03	1.10E+03	4.60E+00	6.81E+03	7.62E+03	1.39E+01	-1.12E+01

*__Note__: B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1- B5, B7) are equal to zero. So, it is not listed in the result tables.

To evaluate the environmental impact of other products covered by this PEP, multiply the impact figures by

Factors for Manufacturing, Distribution, Installation, End-of-Life Phase:

Products	Phases	GWP	GWP-f	GWP-b	GWP-lu	ODP	AP	Ep-fw	Ep-m	Ep-t	POCP	ADP-e	ADP-f	WDP
EP-401364 (Reference)	All Phases	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EP-401361	All Phases	1.00	1.00	1. 00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EP-401362	All Phases	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EP-401363	All Phases	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EP-401368	Manufacturing	1.09	1.09	1.50	1.69	1.03	1.10	1.20	1.13	1.13	1.12	1.20	1.16	1.11
	Distribution	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
	Installation	0.75	1.09	0.28	1.01	1.36	1.38	1.52	1.46	1.36	1.29	1.18	1.40	1.50
	Use	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
	End of Life	1.28	1.29	1.09	1.78	1.32	1.09	1.85	1.05	1.35	1.25	2.20	1.22	1.07
	Module D	1.17	1.28	1.33	1.00	1.05	1.31	1.52	1.43	1.38	1.34	1.20	1.23	1.31
EP-401365	Manufacturing	1.09	1.09	1.50	1.69	1.03	1.10	1.20	1.13	1.13	1.12	1.20	1.16	1.11
	Distribution	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
	Installation	0.75	1.09	0.28	1.01	1.36	1.38	1.52	1.46	1.36	1.29	1.18	1.40	1.50
	Use	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
	End of Life	1.28	1.29	1.09	1.78	1.32	1.09	1.85	1.05	1.35	1.25	2.20	1.22	1.07
	Module D	1.17	1.28	1.33	1.00	1.05	1.31	1.52	1.43	1.38	1.34	1.20	1.23	1.31
EP-401366	Manufacturing	1.09	1.09	1.50	1.69	1.03	1.10	1.20	1.13	1.13	1.12	1.20	1.16	1.11
	Distribution	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
	Installation	0.75	1.09	0.28	1.01	1.36	1.38	1.52	1.46	1.36	1.29	1.18	1.40	1.50
	Use	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
	End of Life	1.28	1.29	1.09	1.78	1.32	1.09	1.85	1.05	1.35	1.25	2.20	1.22	1.07
	Module D	1.17	1.28	1.33	1.00	1.05	1.31	1.52	1.43	1.38	1.34	1.20	1.23	1.31
EP-401367	Manufacturing	1.09	1.09	1.50	1.69	1.03	1.10	1.20	1.13	1.13	1.12	1.20	1.16	1.11
	Distribution	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
	Installation	0.75	1.09	0.28	1.01	1.36	1.38	1.52	1.46	1.36	1.29	1.18	1.40	1.50
	Use	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
	End of Life	1.28	1.29	1.09	1.78	1.32	1.09	1.85	1.05	1.35	1.25	2.20	1.22	1.07
	Module D	1.17	1.28	1.33	1.00	1.05	1.31	1.52	1.43	1.38	1.34	1.20	1.23	1.31
EP-401370	Manufacturing	1.46	1.46	2.18	3.56	1.25	1.41	1.73	1.50	1.48	1.49	1.77	1.97	1.50
	Distribution	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49
	Installation	2.64	2.84	2.37	2.79	3.02	3.03	3.11	3.08	3.01	2.97	2.90	3.04	3.10
	Use	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	End of Life	5.05	5.13	3.23	3.41	2.71	1.87	1.52	1.36	4.23	3.96	1.79	10.05	1.34
	Module D	12.3	6.12	3.01	1.00	7.96	5.73	3.47	4.72	5.15	5.54	14.2	7.68	7.74

EP-401369	Manufacturing	1.46	1.46	2.18	3.56	1.25	1.41	1.73	1.50	1.48	1.49	1.77	1.97	1.50
	Distribution	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49
	Installation	2.64	2.84	2.37	2.79	3.02	3.03	3.11	3.08	3.01	2.97	2.90	3.04	3.10
	Use	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	End of Life	5.05	5.13	3.23	3.41	2.71	1.87	1.52	1.36	4.23	3.96	1.79	10.05	1.34
	Module D	12.3	6.12	3.01	1.00	7.96	5.73	3.47	4.72	5.15	5.54	14.2	7.68	7.74

Disclaimer

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		Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14025: 2006			
Internal	X	External	
The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)			
PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 *The components of the present PEP may not be compared with components from any other program.*			
Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"			